

Name _____

Period _____

Density Worksheet

In order to receive full credit, you must show ALL work and circle your final answer.

1. 100 grams of a liquid completely fill a 200 mL bottle. What is the density of the liquid?

2. A solution has a density of 1.50 g/mL. How many grams are needed to obtain 10.0 mL of solution?

3. If a block of copper measures 2.00 cm x 4.00 cm x 5.00 cm and weighs 356 grams, what is its density?

4. The density of mercury is 13.6 g/mL.
 - a. what is the mass of 8.20 mL of mercury?

 - b. what volume would 120 grams of mercury occupy?

5. A piece of silver has a mass of 2800 grams and occupies a volume of 266 cm³. What is the density of silver?

6. A bottle has a capacity of 1.2 liters. If the density of ether is 0.74 g/mL, what mass of ether can the bottle hold?
7. A student pipets 5.00 mL of ethanol into a flask weighing 15.25 grams. She finds that the mass of the flask *plus* ethanol = 19.17 grams. Calculate the density of ethyl alcohol.
8. Peanut oil has a density of 0.92 g/mL. If a recipe calls for $\frac{1}{4}$ cup of peanut oil, what mass of peanut oil is required? (Hint: 1 cup = 237 mL).
9. A chemist needs 2.00 g of a liquid compound, which has a density of 0.718 g/mL. If the compound costs \$5.67 **per mL**, how much will a 2.0 gram sample cost?

10.

You have three identical balls and three beakers containing different liquids. Each ball has a density of 6 g/mL. You place one ball in each beaker.

In beaker A the ball floats with 50% of its volume submerged

In Beaker B the ball floats with 25 % of its volume submerged

In Beaker C the ball sinks to the bottom.

Sketch the three situations:

Rank the liquids based on their densities from the largest to the smallest.